

AVSI0010 P1 (108328.00154)

IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Louis C. Smith et al.,

Serial No.: 10/657,725

Filed: 09/08/2003

For: CONSTANT CURRENT ELECTROPORATION DEVICE AND METHODS
OF USE

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

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INFORMATION DISCLOSURE STATEMENT

This information disclosure statement (IDS) submitted herewith is being filed before the mailing date of a first Office Action under 37 C.F.R. § 1.97(b).

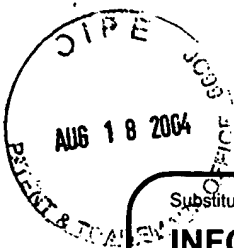
Respectfully submitted,
JACKSON WALKER L.L.P.

T. Ling Chwang
T. Ling Chwang
Registration No. 33,590

August 13, 2004
Dated:

JACKSON WALKER L.L.P.
2435 North Central Expressway, Suite 600
Richardson, Texas 75080
Tel: (972) 744-2919
Fax: (972) 744-2909

3627137v1 108328/00154



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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known	
		Application Number	10/657,725
		Filing Date	09/08/2003
		First Named Inventor	Smith, Louis C., et al.
		Group Art Unit	
Examiner Name			
Sheet 1 of 3 Sheets		Attorney Docket Number	AVSI-0010 P1(108328.00154)

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1.	US 5,676,646	10/14/1997	Hofmann et al.,	Entire Patent
	2.	US 5,702,359	12/30/1997	Hofmann et al.,	Entire Patent
	3.	US 6,068,650	05/30/2000	Hofmann et al.,	Entire Patent
	4.	US 6,096,020	08/01/2000	Hofmann et al.,	Entire Patent
	5.	US 6,120,493	09/19/2000	Hofmann et al.,	Entire Patent
	6.	US 6,150,148	11/21/2000	Nanda et al.,	Entire Patent
	7.	US 6,181,964	06/30/2001	Hofmann et al.,	Entire Patent
	8.	US 6,192,270	02/20/2001	Hofmann et al.,	Entire Patent
	9.	US 6,208,893	03/27/2001	Hofmann et al.,	Entire Patent
	10.	US 6,216,034	04/10/2001	Hofmann et al.,	Entire Patent
	11.	US 6,233,482	05/15/2001	Hofmann et al.,	Entire Patent
	12.	US 6,241,701	06/05/2001	Hofmann et al.,	Entire Patent
	13.	US 6,302,874	10/16/2001	Zhang et al.,	Entire Patent
	14.	US 10/360,768	03/07/2002	Westersten et al.,	Entire Application
	15.	US 578,611	03/09/1897	Rively	Entire Patent
	16.	US 2,223,447	12/03/1940	Hathaway	Entire Patent
	17.	US 2,239,432	04/22/1941	Stratton	Entire Patent
	18.	US 2,827,851	03/25/1958	Ferrara	Entire Patent
	19.	US 2,970,545	02/07/1961	Howe	Entire Patent
	20.	US 3,060,923	10/30/1962	Reiner	Entire Patent

FOREIGN PATENT DOCUMENTS						
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	21.	US 3,078,850	02/26/1963	Schein et al.,	Entire Patent
	22.	US 3,087,486	04/30/1963	Kilpatrick	Entire Patent
	23.	US 3,162,592	12/22/1964	Pohl	Entire Patent
	24.	US 3,224,436	12/21/1965	Massena	Entire Patent
	25.	US 3,313,293	04/11/1967	Chesebrough et al.,	Entire Patent
	26.	US 3,568,660	03/09/1971	Crites et al.,	Entire Patent
	27.	US 3,682,162	08/08/1972	Colyer	Entire Patent
	28.	US 3,834,392	09/10/1974	Lampman et al.,	Entire Patent
	29.	US 3,900,020	08/19/1975	Lock	Entire Patent
	30.	US 4,016,886	04/12/1977	Doss et al.,	Entire Patent
	31.	US 4,155,363	05/22/1979	Letchworth et al.,	Entire Patent
	32.	US 4,237,896	12/09/1980	Lines	Entire Patent
	33.	US 4,262,672	04/21/1981	Keif	Entire Patent
	34.	US 4,476,004	10/09/1984	Pohl	Entire Patent
	35.	US 4,524,770	06/25/1985	Orandi	Entire Patent
	36.	US Re. 32,057	12/31/1985	LeVeen	Entire Patent
	37.	US 4,663,292	05/05/1987	Wong et al.,	Entire Patent
	38.	US 4,786,505	11/22/1988	Lovgren et al.,	Entire Patent
	39.	US 4,822,470	04/18/1989	Chang	Entire Patent
	40.	US 4,850,956	07/25/1989	Bontemps	Entire Patent
	41.	US 4,969,468	11/13/1990	Byers et al.,	Entire Patent
	42.	US 4,970,154	11/13/1990	Chang	Entire Patent

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	43.	US 5,019,034	05/28/1991	Weaver et al.,	Entire Patent
	44.	US 5,137,817	08/11/1992	Busta et al.,	Entire Patent
	45.	US 5,273,525	12/28/1993	Hofmann	Entire Patent
	46.	US 5,389,069	02/14/1995	Weaver	Entire Patent
	47.	US 5,439,440	08/08/1995	Hofmann	Entire Patent
	48.	US 5,462,520	10/31/1995	Hofmann	Entire Patent
	49.	US 5,464,386	11/07/1995	Hofmann	Entire Patent
	50.	US 5,468,223	11/21/1995	Mir	Entire Patent
	51.	US 5,501,662	03/26/1996	Hofmann	Entire Patent
	52.	US 5,507,724	04/16/1996	Hofmann et al.,	Entire Patent
	53.	US 5,545,130	08/13/1996	Hofmann et al.,	Entire Patent
	54.	US 5,580,859	12/03/1996	Felgner et al.,	Entire Patent
	55.	US 5,628,728	05/13/1997	Tachibana et al.,	Entire Patent
	56.	US 5,688,233	11/18/1997	Hofmann et al.,	Entire Patent
	57.	US 5,702,359	12/30/1997	Hofmann et al.,	Entire Patent
	58.	US 5,704,908	01/06/1998	Hofmann et al.,	Entire Patent
	59.	US 5,727,808	03/17/1998	Broughton	Entire Patent
	60.	US 5,810,762	09/22/1998	Hofmann	Entire Patent
	61.	US 5,859,327	01/12/1999	Dev et al.,	Entire Patent
	62.	US 5,869,326	02/09/1999	Hofmann	Entire Patent

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 4 of 3 Sheets

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		Number - Kind Code ² (if known)			
	63.	US 5,873,849	02/23/1999	Bernard	Entire Patent
	64.	US 5,944,710	08/31/1999	Dev et al.,	Entire Patent
	65.	US 5,968,006	10/19/1999	Hofman	Entire Patent
	66.	US 6,006,130	12/21/1999	Higo et al.,	Entire Patent
	67.	US 6,110,161	08/29/2000	Mathiesen et al.,	Entire Patent
	68.	US 6,241,701 B1	06/05/2001	Hofmann	Entire Patent
	69.	US 6,259,946 B1	07/10/2001	Higo et al.,	Entire Patent
	70.	US 6,278,895 B1	08/21/2001	Bernard	Entire Patent
	71.	US 6,300,108 B1	10/09/2001	Rubinsky et al.,	Entire Patent
	72.	US 6,314,316 B1	11/06/2001	Gilbert et al.,	Entire Patent
	73.	US 2002/0025578 A1	02/28/2002	MacLaughlin et al.,	Entire Patent
	74.	US 2002/0038112 A1	03/28/2002	Mathiesen et al.,	Entire Patent
	75.	US 2002/0198485 A1	12/26/2002	Dev et al.,	Entire Patent
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FOREIGN PATENT DOCUMENTS

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 5 of 3 Sheets

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Attorney Docket Number	AVSI-0010 P1(108328.00154)

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	83.	CANATELLA, P. J. and M. R. Prausnitz. 2001. Prediction and Optimization of Gene Transfection and Drug Delivery by Electroporation. Gene Ther. 8:1464-9.	/
	84.	DEAN, D. A., D. Machado-Aranda, K. Blair-Parks, A. V. Yeldandi, and J. L. Young. 2003. Electroporation as a method for high-level nonviral gene transfer to the lung. Gene Ther. 10:1608-1615.	/
	85.	DRAGHIA-AKLI, R., K. K. Cummings, A. S. Khan, P. A. Brown, and R. H. Carpenter. 2003a. Effects of plasmid-mediated growth hormone releasing hormone supplementation in young healthy Beagle dogs. Journal of Animal Science 81:2301-2310.	/
	86.	DRAGHIA-AKLI, R., K. M. Ellis, L. A. Hill, P. B. Malone, and M. L. Fiorotto. 2003b. High-efficiency growth hormone releasing hormone plasmid vector administration into skeletal muscle mediated by electroporation in pigs. FASEB J 17:526-528.	/
	87.	DRAGHIA-AKLI, R., M. L. Fiorotto, L. A. Hill, P. B. Malone, D. R. Deaver, and R. J. Schwartz. 1999. Myogenic expression of an injectable protease-resistant growth hormone-releasing hormone augments long-term growth in pigs. Nat. Biotechnol. 17:1179-1183.	/
	88.	DRAGHIA-AKLI, R., A. S. Khan, K. K. Cummings, D. Parghi, R. H. Carpenter, and P. A. Brown. 2002. Electrical Enhancement of Formulated Plasmid Delivery in Animals. Technology in Cancer Research & Treatment 1:365-371.	/
	89.	FATTORI, E., N. La Monica, G. Ciliberto, and C. Toniatti. 2002. Electro-gene-transfer: a new approach for muscle gene delivery. Somat. Cell Mol. Genet. 27:75-83.	/
	90.	LEE, R. C., D. Zhang, and J. Hannig. 2000. Biophysical injury mechanisms in electrical shock trauma. Annu. Rev. Biomed. Eng 2:477-509.	/
	91.	LI, X., E. M. Eastman, R. J. Schwartz, and R. Draghia-Akli. 1999. Synthetic muscle promoters: activities exceeding naturally occurring regulatory sequences. Nat. Biotechnol. 17:241-245.	/
	92.	MARTIN, G. T., U. F. Pliquet, and J. C. Weaver. 2002. Theoretical analysis of localized heating in human skin subjected to high voltage pulses. Bioelectrochemistry. 57:55-64.	/
	93.	MCMAHON, J.M., E. Signori, K.E. Wells, V.M. Fazio, and D.J. Wells. 2001. Optimization of Electrotransfer of Plasmid into Skeletal Muscle by Pretreatment with Hyaluronidase--Increased Expression with Reduced Muscle Damage. Gene Ther. 8:1264-70.	/

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	94.	MIR, L. M., M. F. Bureau, J. Gehl, R. Rangara, D. Rouy, J. M. Caillaud, P. Delaere, D. Branellec, B. Schwartz, and D. Scherman. 1999. High-efficiency gene transfer into skeletal muscle mediated by electric pulses. Proc. Natl. Acad. Sci. U. S. A 96:4262-4267.	✓
	95.	MIR, L. M., M. F. Bureau, R. Rangara, B. Schwartz, and D. Scherman. 1998. Long-term, high level in vivo gene expression after electric pulse- mediated gene transfer into skeletal muscle. C. R. Acad. Sci. III 321:893-899.	-
	96.	MOR, G. and M. Eliza. 2001. Plasmid DNA vaccines. Immunology, tolerance, and autoimmunity. Mol. Biotechnol. 19:245-250.	✓
	97.	PILARO, A. M. and M. A. Serabian. 1999. Preclinical development strategies for novel gene therapeutic products. Toxicol. Pathol. 27:4-7.	✓
	98.	PLIQUETT, U. F., G. T. Martin, and J. C. Weaver. 2002. Kinetics of the temperature rise within human stratum corneum during electroporation and pulsed high-voltage iontophoresis. Bioelectrochemistry. 57:65-72.	-
	99.	STOLL, S. M. and M. P. Calos. 2002. Extrachromosomal plasmid vectors for gene therapy. Curr. Opin. Mol. Ther. 4:299-305.	✓

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